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NEWS 8 JAN 28 MEDLINE and LMEEDLINE reloaded with enhancements  
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NEWS 15 MAR 31 CAS REGISTRY enhanced with additional experimental  
spectra  
NEWS 16 MAR 31 CA/CAPLUS and CASREACT patent number format for U.S.  
applications updated  
NEWS 17 MAR 31 LPCI now available as a replacement to LDPCI  
NEWS 18 MAR 31 EMBASE, EMBAL, and LEMBASE reloaded with enhancements  
NEWS 19 APR 04 STN AnaVist, Version 1, to be discontinued  
NEWS 20 APR 15 WPIDS, WPINDEX, and WPIX enhanced with new  
predefined hit display formats  
NEWS 21 APR 28 EMBASE Controlled Term thesaurus enhanced  
NEWS 22 APR 28 IMSRESEARCH reloaded with enhancements  
  
NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,  
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008  
  
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research. Use for software development or design or implementation  
of commercial gateways or other similar uses is prohibited and may

result in loss of user privileges and other penalties.

FILE 'HOME' ENTERED AT 00:39:23 ON 12 MAY 2008

FILE 'MEDLINE' ENTERED AT 00:40:04 ON 12 MAY 2008

transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) (I) having a fully defined sequence (S1) of 655 amino acids as given in the specification from yeast in plant organism or in tissue, organ, part, cell or its propagation material, selecting plant organisms in which total oil content in plant organism or in tissue, organ, part, cell or its propagation material is increased in contrast to or comparison with starting organism.

INDEPENDENT CLAIMS are also included for:

(1) a transgenic expression cassette (II) comprising a nucleic acid sequence (S2) of YJR098c gene having fully defined sequence of 2439 nucleotides as given in the specification operable linked to a promoter, which is functional in a plant organism or a tissue, organ, part or its cell;

(2) a transgenic vector (III) comprising (II) an expression an expression cassette; and

(3) a transgenic plant organism or tissue, organ, part, cell or its propagation material comprising (I) or (II) or (III).

USE - (M1) is useful for increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material. A transgenic plant organism chosen from oil crops consisting of *Borago officinalis*, *Brassica campestris*, *B. napus*, *B. rapa*, *Cannabis sativa*, *Carthamus tinctorius*, *Cocos nucifera*, *Crambe abyssinica*, *Cuphea* sp., *Elaeis guineensis*, *E. oleifera*, *Glycine max*, *Gossypium hirsutum*, *G. barbadense*, *G. herbaceum*, *Helianthus annuus*, *Linum usitatissimum*, *Oenothera biennis*, *Olea europaea*, *Oryza sativa*, *Ricinus communis*, *Sesamum indicum*, *Triticum* sp., *Zea mays*, walnut and almond or tissue, organ, part, cell or its propagation material is useful in the production of oils, fats, free fatty acids or its derivatives (all claimed). The transgenic plant is also useful for the production of food, feeds, seeds, pharmaceuticals, or fine chemicals, in particular for the production of oils.

ADVANTAGE - (M1) is efficient in increasing total oil content in organism or tissue, organ, plant, cell, or its propagation material.

ACCESSION NUMBER: 2004-122957 [12] WPIDS

DOC. NO. CPI: C2006-033014 [10]

DOC. NO. NON-CPI: N2006-078882 [10]

TITLE: Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content

DERWENT CLASS: C06; D13; D16; D23; P13

INVENTOR: BANAS A; DAHLQVIST A; GIPMANS M; LENMAN M; RONNE H; STAEHL U; STAHL U; STYMNE S; WIBERG E; STYMME S

PATENT ASSIGNEE: (BADI-C) BASF PLANT SCI GMBH

COUNTRY COUNT: 104

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2004007727	A1	20040122	(200412)*	EN	46[0]	
AU 2003246361	A1	20040202	(200450)	EN		
EP 1521834	A1	20050413	(200525)	EN		
US 20060174373	A1	20060803	(200651)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004007727	A1	WO 2003-EP7084	20030703

AU 2003246361 A1  
EP 1521834 A1  
EP 1521834 A1  
US 20060174373 A1  
US 20060174373 A1

AU 2003-246361 20030703  
EP 2003-763694 20030703  
WO 2003-EP7084 20030703  
WO 2003-EP7084 20030703  
US 2004-519943 20041229

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003246361 A1	Based on	WO 2004007727 A
EP 1521834 A1	Based on	WO 2004007727 A

PRIORITY APPLN. INFO: EP 2002-15344

20020710

L3 ANSWER 2 OF 16 WPIDS COPYRIGHT 2008 THOMSON REUTERS ON STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content

AN 2000-665012 [64] WPIDS

AB WO 2000060095 A2 UPAB: 20050831

NOVELTY - An enzyme catalyzing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a nucleotide sequence encoding the enzyme, or a partial nucleotide sequence corresponding to the full length nucleotide sequence that encodes the enzyme;

(2) a gene construct comprising the nucleotide sequence operably linked to a heterologous nucleic acid;

(3) a vector comprising the nucleotide sequence or the gene construct;

(4) a transgenic cell or organism containing the nucleotide sequence and/or the gene construct and/or the vector;

(5) a process for producing triacylglycerol comprising growing the transgenic cell organism under conditions where the nucleotide sequence is expressed; and

(6) triacylglycerol produced by the process of (5).

USE - The enzyme and the nucleotides encoding them are useful for producing triacylglycerol and/or triacylglycerol with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism.

ACCESSION NUMBER: 2000-665012 [64] WPIDS

DOC. NO. CPI: C2000-201465 [64]

TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content

DERWENT CLASS: C06; D16; D23; E17; P13; P14

INVENTOR: BANAS A; DAHLQVIST A; LEDMAN M; LENMAN M; RONNE H; STAHL U; STYMNE S

PATENT ASSIGNEE: (BADI-C) BASF PLANT SCI GMBH

COUNTRY COUNT: 89

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
-----						
WO	2000060095	A2	20001012	(200064)*	EN	97[6]
AU	2000038147	A	20001023	(200107)	EN	
NO	2001004716	A	20011128	(200208)	NO	
EP	1165803	A2	20020102	(200209)	EN	
CZ	2001003529	A3	20020213	(200221)	CS	
BR	2000009510	A	20020423	(200235)	PT	
KR	2001112396	A	20011220	(200239)	KO	
SK	2001001387	A3	20020604	(200247)	SK	
HU	2002000480	A2	20020729	(200258)	HU	
JP	2002541783	W	20021210	(200301)	JA	90
CN	1362994	A	20020807	(200304)	ZH	
NZ	514227	A	20031219	(200404)	EN	
MX	2001009577	A1	20030701	(200420)	ES	
AU	777031	B2	20040930	(200480)	EN	
RU	2272073	C2	20060320	(200620)	RU	
CN	1230541	C	20051207	(200654)	ZH	
EP	1165803	B1	20070307	(200720)	EN	
DE	60033793	E	20070419	(200729)	DE	
ES	2283294	T3	20071101	(200774)	ES	
DE	60033793	T2	20071206	(200782)	DE	
IL	145307	A	20071203	(200819)	EN	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
-----			
WO	2000060095 A2	WO 2000-EP2701	20000328
AU	2000038147 A	AU 2000-38147	20000328
AU	777031 B2	AU 2000-38147	20000328
BR	2000009510 A	BR 2000-9510	20000328
CN	1362994 A	CN 2000-805998	20000328
CN	1230541 C	CN 2000-805998	20000328
DE	60033793 E	DE 2000-60033793	20000328
DE	60033793 T2	DE 2000-60033793	20000328
EP	1165803 A2	EP 2000-917001	20000328
EP	1165803 B1	EP 2000-917001	20000328
DE	60033793 E	EP 2000-917001	20000328
ES	2283294 T3	EP 2000-917001	20000328
DE	60033793 T2	EP 2000-917001	20000328
JP	2002541783 W	JP 2000-609586	20000328
NZ	514227 A	NZ 2000-514227	20000328
NO	2001004716 A	WO 2000-EP2701	20000328
EP	1165803 A2	WO 2000-EP2701	20000328
CZ	2001003529 A3	WO 2000-EP2701	20000328
BR	2000009510 A	WO 2000-EP2701	20000328
SK	2001001387 A3	WO 2000-EP2701	20000328
HU	2002000480 A2	WO 2000-EP2701	20000328
JP	2002541783 W	WO 2000-EP2701	20000328
NZ	514227 A	WO 2000-EP2701	20000328
MX	2001009577 A1	WO 2000-EP2701	20000328
RU	2272073 C2	WO 2000-EP2701	20000328
EP	1165803 B1	WO 2000-EP2701	20000328
DE	60033793 E	WO 2000-EP2701	20000328
DE	60033793 T2	WO 2000-EP2701	20000328
CZ	2001003529 A3	CZ 2001-3529	20000328
RU	2272073 C2	RU 2001-129499	20000328
SK	2001001387 A3	SK 2001-1387	20000328
MX	2001009577 A1	MX 2001-9577	20010924

NO 2001004716 A  
 KR 2001112396 A  
 HU 2002000480 A2  
 IL 145307 A

NO 2001-4716 20010928  
 KR 2001-712623 20010929  
 HU 2002-480 20000328  
 IL 2000-145307 20000328

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 777031	B2 Previous Publ	AU 2000038147 A
DE 60033793	E Based on	EP 1165803 A
ES 2283294	T3 Based on	EP 1165803 A
DE 60033793	T2 Based on	EP 1165803 A
AU 2000038147	A Based on	WO 2000060095 A
EP 1165803	A2 Based on	WO 2000060095 A
CZ 2001003529	A3 Based on	WO 2000060095 A
BR 2000009510	A Based on	WO 2000060095 A
SK 2001001387	A3 Based on	WO 2000060095 A
HU 2002000480	A2 Based on	WO 2000060095 A
JP 2002541783	W Based on	WO 2000060095 A
NZ 514227	A Based on	WO 2000060095 A
MX 2001009577	A1 Based on	WO 2000060095 A
AU 777031	B2 Based on	WO 2000060095 A
RU 2272073	C2 Based on	WO 2000060095 A
EP 1165803	B1 Based on	WO 2000060095 A
DE 60033793	E Based on	WO 2000060095 A
DE 60033793	T2 Based on	WO 2000060095 A
IL 145307	A Based on	WO 2000060095 A

PRIORITY APPLN. INFO: US 2000-180687P 20000207  
 EP 1999-106656 19990401  
 EP 1999-111321 19990610

L3 ANSWER 3 OF 16 USPATFULL on STN  
 TI Process for the production of fine chemicals  
 AB The present invention relates to a process for the production of the fine chemical in a microorganism, a plant cell, a plant, a plant tissue or in one or more parts thereof, preferably in plastids. The invention furthermore relates to nucleic acid molecules, polypeptides, nucleic acid constructs, vectors, antibodies, host cells, plant tissue, propagation material, harvested material, plants, microorganisms as well as agricultural compositions and to their use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2007:136231 USPATFULL  
 TITLE: Process for the production of fine chemicals  
 INVENTOR(S): Puzio, Piotr, Berlin, GERMANY, FEDERAL REPUBLIC OF  
 Wendel, Birgit, Berlin, GERMANY, FEDERAL REPUBLIC OF  
 Herold, Michael Manfred, Berlin, GERMANY, FEDERAL REPUBLIC OF  
 Looser, Ralf, Berlin, GERMANY, FEDERAL REPUBLIC OF  
 Blau, Astrid, Stahnsdorf, GERMANY, FEDERAL REPUBLIC OF  
 Plesch, Gunnar, Potsdam, GERMANY, FEDERAL REPUBLIC OF  
 Kamlage, Beate, Berlin, GERMANY, FEDERAL REPUBLIC OF  
 Schauwecker, Florian, Berlin, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): Metanomics GmbH, Berlin, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2007118916 A1 20070524  
 APPLICATION INFO.: US 2006-516230 A1 20060906 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2006-110426	20060224
	EP 2006-110579	20060228
	EP 2006-110425	20060224
	EP 2006-110423	20060224
	EP 2006-110418	20060224
	EP 2006-110383	20060224
	EP 2006-110378	20060224
	EP 2006-110367	20060224
	EP 2006-110327	20060223
	EP 2006-110325	20060223
	EP 2006-110959	20060224
	EP 2006-110289	20060222
	EP 2006-110005	20060216
	EP 2006-110215	20060221
	EP 2006-110211	20060214
	EP 2006-110968	20060217
	EP 2006-101589	20060207
	EP 2005-113027	20051222
	EP 2005-112431	20051215
	EP 2005-112039	20051212
	EP 2005-111910	20051201
	EP 2005-111170	20051117
	EP 2005-110441	20051108
	EP 2005-110433	20051107
	EP 2005-109592	20051014

DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: Connolly Bove Lodge & Hutz LLP, 1007 North Orange Street, P.O. Box 2207, Wilmington, DE, 19899, US  
 NUMBER OF CLAIMS: 34  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 4 Drawing Page(s)  
 LINE COUNT: 80479  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 16 USPATFULL on STN  
 TI Diacylglycerol acyltransferase genes, proteins, and uses thereof  
 AB The present invention relates to diacylglycerol acyltransferase genes and proteins, and methods of their use. In particular, the invention describes genes and proteins that exhibit both long-chain acyltransferase and acetyltransferase activity. The present invention encompasses both native and recombinant wild-type forms of the transferase, as well as mutants and variant forms, some of which possess altered characteristics relative to the wild-type transferase. The present invention also relates to methods of using diacylglycerol acyltransferase genes and proteins, including in their expression in transgenic organisms and in the production of acetyl-glycerides in plant oils, and in particular seed oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 ACCESSION NUMBER: 2007:32051 USPATFULL  
 TITLE: Diacylglycerol acyltransferase genes, proteins, and uses thereof  
 INVENTOR(S): Milcamps, Anne, Gavirate (Volorre), ITALY  
 Pan, David A., Tayside, UNITED KINGDOM  
 Pollard, Michael R., Okemos, MI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007028329	A1	20070201
APPLICATION INFO.:	US 2006-541881	A1	20061002 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2004-859247, filed on 2 Jun 2004, GRANTED, Pat. No. US 7122367		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-475371P	20030603 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105, US	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1-8	
NUMBER OF DRAWINGS:	7 Drawing Page(s)	
LINE COUNT:	4527	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L3 ANSWER 5 OF 16 USPATFULL on STN

TI Trans-2-enoyl-coa reductase gene of euglena gracilis

AB The invention relates to the identification and use of a nucleic acid sequence SEQ ID NO: 1 from *Euglena gracilis* that when expressed will increase the total amount of oil (i.e. triacylglycerols, diacylglycerols, monoacylglycerols, phospholipids, waxesters and/or fatty acids) that is produced in transgenic organisms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2007:25451 USPATFULL

TITLE: Trans-2-enoyl-coa reductase gene of euglena gracilis

INVENTOR(S): Cirpus, Petra, Mannheim, GERMANY, FEDERAL REPUBLIC OF  
Oswald, Oliver, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF  
Lerchi, Jens, Svalov, SWEDEN  
Martin, William Frank, Neuss, GERMANY, FEDERAL REPUBLIC OF  
Hoffmeister, Meike, Dusseldorf, GERMANY, FEDERAL REPUBLIC OF

PATENT ASSIGNEE(S): BASF Plant Science GmbH, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007022497	A1	20070125
APPLICATION INFO.:	US 2004-574902	A1	20041008 (10)
	WO 2004-EP11294		20041008
			20060407 PCT 371 date
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US		
NUMBER OF CLAIMS:	12		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	10 Drawing Page(s)		
LINE COUNT:	4105		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			

L3 ANSWER 6 OF 16 USPATFULL on STN

TI Use of genes for increasing the oil content in plants



AB The invention relates to methods for increasing the oil content in plants, preferably in plant seeds, by expressing the Ypr140w polypeptide from yeast or corresponding polypeptides from plants. The invention furthermore relates to expression constructs for expressing the yeast polypeptide Ypr140w or corresponding polypeptides from plants in plants, preferably in plant seeds, the transgenic plants expressing the polypeptide and to the use of said transgenic plants for the production of food, feed, seed, pharmaceuticals or fine chemicals, in particular for the production of oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2006:242512 USPATFULL  
TITLE: Use of genes for increasing the oil content in plants  
INVENTOR(S): Cirpus, Petra, Mannheim, GERMANY, FEDERAL REPUBLIC OF  
Oswald, Oliver, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF  
Ronne, Hans, Uppsala, SWEDEN  
Dahlqvist, Anders, Furulund, GERMANY, FEDERAL REPUBLIC OF  
Lenman, Marit, Lund, SWEDEN  
Neal, Andrea, Uppsala, SWEDEN  
Stahl, Ulf, Uppsala, SWEDEN  
Liu, Tao, Solna, SWEDEN  
Banas, Antoni, Siedlce, POLAND  
Wiberg, Eva, Uppsala, SWEDEN  
PATENT ASSIGNEE(S): BASF Plant Science GmbH, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2006206961	A1	20060914
APPLICATION INFO.:	US 2004-553303	A1	20040413 (10)
	WO 2004-EP3845		20040413
			20051014 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2003-8909	20030416
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US	
NUMBER OF CLAIMS:	12	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Page(s)	
LINE COUNT:	2628	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 16 USPATFULL on SIN

TI Use of a gene for increasing the oil content in plants  
AB The invention relates to methods for increasing the oil content in plants, preferably in plant seeds, by expressing a polypeptide from yeast. The invention furthermore relates to expression constructs for expressing the yeast polypeptide in plants, preferably in plant seeds, the transgenic plants expressing the yeast polypeptide and to the use of said transgenic plants for the production of food, feeds, seed, pharmaceuticals or fine chemicals, in particular for the production of oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2006:204486 USPATFULL

TITLE: Use of a gene for increasing the oil content in plants  
 INVENTOR(S): Gipmans, Martijn, Potsdam, GERMANY, FEDERAL REPUBLIC OF  
 Dahlqvist, Anders, Furulund, SWEDEN  
 Banas, Antoni, Siedlce, POLAND  
 Stahl, Ulf, Uppsala, SWEDEN  
 Wiberg, Eva, Uppsala, SWEDEN  
 Lenman, Marit, Lund, SWEDEN  
 Ronne, Hans, Uppsala, SWEDEN  
 Stymme, Sten, Svalof, SWEDEN  
 PATENT ASSIGNEE(S): BASF Plant Science GmbH, Ludwigshafen, GERMANY, FEDERAL  
 REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2006174373	A1	20060803
APPLICATION INFO.:	US 2003-519943	A1	20030703 (10)
	WO 2003-EP7084		20030703
			20041229 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2002-15344	20020710
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US	
NUMBER OF CLAIMS:	11	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1460	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L3 ANSWER 8 OF 16 USPATFULL on STN  
 TI Diacylglycerol acyltransferase genes, proteins, and uses thereof  
 AB The present invention relates to diacylglycerol acyltransferase genes  
 and proteins, and methods of their use. In particular, the invention  
 describes genes and proteins that exhibit both long-chain  
 acyltransferase and acetyltransferase activity. The present invention  
 encompasses both native and recombinant wild-type forms of the  
 transferase, as well as mutants and variant forms, some of which possess  
 altered characteristics relative to the wild-type transferase. The  
 present invention also relates to methods of using diacylglycerol  
 acyltransferase genes and proteins, including in their expression in  
 transgenic organisms and in the production of acetyl-glycerides in plant  
 oils, and in particular seed oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 ACCESSION NUMBER: 2005:151372 USPATFULL  
 TITLE: Diacylglycerol acyltransferase genes, proteins, and  
 uses thereof  
 INVENTOR(S): Milcamps, Anne, Gavirate, ITALY  
 Pan, David A., Tayside, UNITED KINGDOM  
 Pollard, Michael R., Okemos, MI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005130284	A1	20050616
APPLICATION INFO.:	US 7122367	B2	20061017
	US 2004-859247	A1	20040602 (10)

NUMBER	DATE

PRIORITY INFORMATION: US 2003-475371P 20030603 (60)  
DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street,  
San Francisco, CA, 94105, US  
NUMBER OF CLAIMS: 25  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 7 Drawing Page(s)  
LINE COUNT: 4586  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 9 OF 16 USPATFULL on STN  
TI Use of class enzymes and their encoding genes to increase the oil  
content in transgenic organisms  
AB The present invention relates to the use of a novel enzyme and its  
encoding gene for transformation. More specifically, the invention  
relates to the use of a gene encoding an enzyme with acyl-CoA:  
diacylglycerol acyltransferase activity. This gene expressed alone in  
transgenic organisms will increase the total amount of oil (i.e.  
triacylglycerols) that is produced.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2005:6218 USPATFULL  
TITLE: Use of class enzymes and their encoding genes to  
increase the oil content in transgenic organisms  
INVENTOR(S): Banas, Antoni, Siedlce, POLAND  
Sandager, Line, Copenhagen, DENMARK  
Stahl, Ulf, Uppsala, SWEDEN  
Dahlqvist, Anders, Furulund, SWEDEN  
Lenman, Marit, Lund, SWEDEN  
Ronne, Hans, Uppsala, SWEDEN  
Stymne, Sten, Svalov, SWEDEN  
PATENT ASSIGNEE(S): SCANDINAVIAN BIOTECHNOLOGY RESEARCH (SCANBI) AB,  
SVALOV, SWEDEN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005005326	A1	20050106
APPLICATION INFO.:	US 2004-853268	A1	20040526 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2000-709457, filed on 13 Nov 2000, GRANTED, Pat. No. US 6791008		

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1999-850169	19991112
	US 1999-164859P	19991112 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	YOUNG & THOMPSON, 745 SOUTH 23RD STREET, 2ND FLOOR, ARLINGTON, VA, 22202	
NUMBER OF CLAIMS:	4	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Page(s)	
LINE COUNT:	729	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L3 ANSWER 10 OF 16 USPATFULL on STN  
TI Use of a class of enzymes and their encoding genes to increase the oil  
content in transgenic organisms  
AB The present invention relates to the use of a novel enzyme and its  
encoding gene for transformation. More specifically, the invention

relates to the use of a gene encoding an enzyme with acyl-CoA:diacylglycerol acyltransferase activity. This gene expressed alone in transgenic organisms will increase the total amount of oil (i.e. triacylglycerols) that is produced.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2004:229803 USPATFULL  
 TITLE: Use of a class of enzymes and their encoding genes to increase the oil content in transgenic organisms  
 INVENTOR(S): Banas, Antoni, Siedlce, POLAND  
 Sandager, Line, Copenhagen, DENMARK  
 St.ang.hl, Ulf, Uppsala, SWEDEN  
 Dahlqvist, Anders, Furulund, SWEDEN  
 Lenman, Marit, Lund, SWEDEN  
 Ronne, Hans, Uppsala, SWEDEN  
 Stymne, Sten, Svalov, SWEDEN  
 PATENT ASSIGNEE(S): Scandinavian Biotechnology Research (ScanBi) AB,  
 Svalov, SWEDEN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6791008	B1	20040914
APPLICATION INFO.:	US 2000-709457		20001113 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-164859P	19991112 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Fox, David T.	
ASSISTANT EXAMINER:	Kallis, Russell	
LEGAL REPRESENTATIVE:	Young & Thompson	
NUMBER OF CLAIMS:	11	
EXEMPLARY CLAIM:	10	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	787	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 11 OF 16 USPATFULL on STN  
 TI Diacylglycerol acyltransferase nucleic acid  
 sequences and associated products  
 AB The present invention is directed to polypeptides and nucleic  
 acid sequences related thereto, and methods to purify, obtain,  
 and use such molecules in genetic engineering applications. More  
 specifically, the present invention relates to polypeptides associated  
 with the production of triacylglycerols in plants and fungi.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2004:140283 USPATFULL  
 TITLE: Diacylglycerol acyltransferase nucleic  
 acid sequences and associated products  
 INVENTOR(S): Lardizabal, Kathryn D., Woodland, CA, UNITED STATES  
 Bennett, Kristen A., Davis, CA, UNITED STATES  
 Wagner, Nicholas W., Sacramento, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004107459	A1	20040603
APPLICATION INFO.:	US 2003-631581	A1	20030731 (10)

NUMBER	DATE
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PRIORITY INFORMATION: US 2002-399427P 20020731 (60)  
 DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: Renessen LLC, Legal Department - Intellectual Property,  
 Suite 300 South, 3000 Lakeside Drive, Bannockburn, IL,  
 60015  
 NUMBER OF CLAIMS: 18  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 11 Drawing Page(s)  
 LINE COUNT: 2658  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 12 OF 16 USPATFULL ON STN  
 TI Diacylglycerol acyl transferase proteins  
 AB The invention provides diacylglycerol acyltransferase (DAGAT) proteins,  
 wherein said proteins are active in the formation of triacylglycerol  
 from fatty acyl and diacylglycerol substrates. In one aspect,  
 Mortierella ramanniana DAGAT proteins have been isolated and have  
 molecular weights of between approximately 36 and 37 kDa as measured by  
 SDS-PAGE. The invention also provides novel DAGAT polynucleotide and  
 polypeptide sequences and to methods of producing such polypeptides  
 using recombinant techniques. In addition, methods are provided for  
 using such sequences to alter triacylglycerol levels in plants and to  
 treat diseases associated with altered DAGAT activity or expression.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 ACCESSION NUMBER: 2003:167771 USPATFULL  
 TITLE: Diacylglycerol acyl transferase proteins  
 INVENTOR(S): Lardizabal, Kathryn Dennis, Woodland, CA, UNITED STATES  
 Thompson, Gregory A., Clarkston, WA, UNITED STATES  
 Hawkins, Deborah, Davis, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003115632	A1	20030619
	US 7135617	B2	20061114
APPLICATION INFO.:	US 2002-208018	A1	20020731 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2002-121857, filed on 15 Apr 2002, PENDING Continuation of Ser. No. US 1999-345461, filed on 30 Jun 1999, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-91631P	19980702 (60)
	US 1999-130829P	19990423 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ARNOLD & PORTER, IP DOCKETING DEPARTMENT, RM 1126(b), 555 12TH STREET, N.W., WASHINGTON, DC, 20004-1206	
NUMBER OF CLAIMS:	48	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	29 Drawing Page(s)	
LINE COUNT:	4596	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L3 ANSWER 13 OF 16 USPATFULL ON STN  
 TI Diacylglycerol acyl transferase proteins  
 AB The invention provides diacylglycerol acyltransferase (DAGAT) proteins,  
 wherein said proteins are active in the formation of triacylglycerol  
 from fatty acyl and diacylglycerol substrates. In one aspect,

Mortierella ramanniana DAGAT proteins have been isolated and have molecular weights of between approximately 36 and 37 kDa as measured by SDS-PAGE. The invention also provides novel DAGAT polynucleotide and polypeptide sequences and to methods of producing such polypeptides using recombinant techniques. In addition, methods are provided for using such sequences to alter triacylglycerol levels in plants and to treat diseases associated with altered DAGAT activity or expression.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:39274 USPATFULL  
 TITLE: Diacylglycerol acyl transferase proteins  
 INVENTOR(S): Lardizabal, Kathryn Dennis, Woodland, CA, UNITED STATES  
 Thompson, Gregory A., Clarkston, WA, UNITED STATES  
 Hawkins, Deborah, Davis, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003028923	A1	20030206
	US 6822141	B2	20041123
APPLICATION INFO.:	US 2002-121857	A1	20020415 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-345461, filed on 30 Jun 1999, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-91631P	19980702 (60)
	US 1999-130829P	19990423 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ARNOLD & PORTER, IP DOCKETING DEPARTMENT, RM 1126(b), 555 12TH STREET, N.W., WASHINGTON, DC, 20004-1206	
NUMBER OF CLAIMS:	48	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	16 Drawing Page(s)	
LINE COUNT:	3416	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 14 OF 16 USPATFULL on STN

TI Plant phosphatidic acid phosphatases  
 AB By this invention, novel nucleic acid sequences encoding for phosphatidic acid phosphatase (PAP) proteins are provided, wherein PAP protein is active in the formation of diacylglycerol from phosphatidic acid. Also considered are amino acid and nucleic acid sequences obtainable from PAP nucleic acid sequences and the use of such sequences to provide transgenic host cells capable of producing altered lipid compositions and total lipid levels.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2002:332863 USPATFULL  
 TITLE: Plant phosphatidic acid phosphatases  
 INVENTOR(S): Lassner, Michael W., Davis, CA, United States  
 Ruezinsky, Diane M., Woodland, CA, United States  
 PATENT ASSIGNEE(S): Calgene LLC, Davis, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6495739	B1	20021217
APPLICATION INFO.:	US 1999-360376		19990723 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1998-122315, filed		

on 24 Jul 1998  
DOCUMENT TYPE: Utility  
FILE SEGMENT: GRANTED  
PRIMARY EXAMINER: McElwain, Elizabeth F.  
LEGAL REPRESENTATIVE: Arnold & Porter, Stierwalt, Brian K.  
NUMBER OF CLAIMS: 74  
EXEMPLARY CLAIM: 9  
NUMBER OF DRAWINGS: 18 Drawing Figure(s); 18 Drawing Page(s)  
LINE COUNT: 2336  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 15 OF 16 USPATFULL on STN  
TI Plant phosphatidic acid phosphatases  
AB By this invention, novel nucleic acid sequences encoding for phosphatidic acid phosphatase (PAP) proteins are provided, wherein said PAP protein is active in the formation of diacylglycerol from phosphatidic acid. Also considered are amino acid and nucleic acid sequences obtainable from PAP nucleic acid sequences and the use of such sequences to provide transgenic host cells capable of producing altered lipid compositions and total lipid levels.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
ACCESSION NUMBER: 2002:291132 USPATFULL  
TITLE: Plant phosphatidic acid phosphatases  
INVENTOR(S): Lassner, Michael W., Davis, CA, United States  
Ruezinsky, Diane M., Woodland, CA, United States  
PATENT ASSIGNEE(S): Calgene LLC, Davis, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6476294	B1	20021105
APPLICATION INFO.:	US 1998-122315		19980724 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	McElwain, Elizabeth F.		
LEGAL REPRESENTATIVE:	Arnold & Porter		
NUMBER OF CLAIMS:	24		
EXEMPLARY CLAIM:	14		
NUMBER OF DRAWINGS:	10 Drawing Figure(s); 10 Drawing Page(s)		
LINE COUNT:	1435		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 16 OF 16 BIOTECHDS COPYRIGHT 2008 THOMSON REUTERS on STN  
TI Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content;  
involving transgenic plant construction and tissue culture propagation  
AN 2004-07840 BIOTECHDS  
AB DERWENT ABSTRACT:  
NOVELTY - Increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material, by transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) having fully defined sequence (S1) of 655 amino acids as given in specification from yeast in plant or in tissue, organ, part, cell or its propagation material, selecting plant having increased total oil content in comparison with control.  
DETAILED DESCRIPTION - Increasing (M1) total oil content in plant organism or tissue, organ, part, cell or its propagation material, by

transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) (I) having a fully defined sequence (S1) of 655 amino acids as given in the specification from yeast in plant organism or in tissue, organ, part, cell or its propagation material, selecting plant organisms in which total oil content in plant organism or in tissue, organ, part, cell or its propagation material is increased in contrast to or comparison with starting organism. INDEPENDENT CLAIMS are also included for: (1) a transgenic expression cassette (II) comprising a nucleic acid sequence (S2) of YJR098c gene having fully defined sequence of 2439 nucleotides as given in the specification operable linked to a promoter, which is functional in a plant organism or a tissue, organ, part or its cell; (2) a transgenic vector (III) comprising (II) an expression expression cassette; and (3) a transgenic plant organism or tissue, organ, part, cell or its propagation material comprising (I) or (II) or (III).

WIDER DISCLOSURE - (1) reducing TEP in a host cell or its progeny including genetically engineered oil seeds, yeast and moulds or any other oil-accumulating organism; and (2) elevating the production of triacylglycerol.

BIOTECHNOLOGY - Preferred Method: In (M1), the polypeptide from yeast has sequence (S1) or has functional equivalent amino acid sequence with at least 60% homology of (S1). The plant is an oil crop and the total oil content in the seed of a plant is increased. Preferred Expression Cassette: In (II), the nucleic acid sequence has sequence (S2) or sequence derived from (S2) in accordance with the degeneracy of the genetic code or sequence which has at least 60% identity with (S2). The promoter is a seed-specific promoter.

USE - (M1) is useful for increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material. A transgenic plant organism chosen from oil crops consisting of *Borvago officinalis*, *Brassica campestris*, *B. napus*, *B. rapa*, *Cannabis sativa*, *Carthamus tinctorius*, *Cocos nucifera*, *Crambe abyssinica*, *Cuphea* sp., *Elaeis guineensis*, *E. oleifera*, *Glycine max*, *Gossypium hirsutum*, *G. barbadense*, *G. herbaceum*, *Helianthus annuus*, *Linum usitatissimum*, *Oenothera biennis*, *Olea europaea*, *Oryza sativa*, *Ricinus communis*, *Sesamum indicum*, *Triticum* sp., *Zea mays*, walnut and almond or tissue, organ, part, cell or its propagation material is useful in the production of oils, fats, free fatty acids or its derivatives (all claimed). The transgenic plant is also useful for the production of food, feeds, seeds, pharmaceuticals, or fine chemicals, in particular for the production of oils.

ADVANTAGE - (M1) is efficient in increasing total oil content in organism or tissue, organ, plant, cell, or its propagation material.

EXAMPLE - Transgenic plants expressing YJR098c gene of triacylglycerols (TAG) synthesis enhancing protein (TEP) derived from *Saccharomyces cerevisiae* was generated as follows for induced high level expression of the YJR098c gene in plants, a PCR fragment (2409 base pair (bp)) was generated by the 5' primer (ctgttagaggtttgggga) and the 3' primer (tgaattgtctctcgctgtcaa) adding 29 bases upstream of the gene and 442 bases downstream of the gene. The gene was cloned into the *Sma*I site of the vapor pUC119 thus generating pUS 29. For *Agrobacterium* mediated plant transformation a binary vector system including the primary cloning vector pART7 with a CaMV35S promoter and a pART27 vector were used. The YJR098c fragment were excised from pUS 29 at the *Xba*I and *Sac*I site and then blunted into the pART7 vector with either the CaMV35S promoter, generating pEW 17 or with the napin promoter, generating pEW 14. The entire cartridge including the promoter, the YJR098c gene and a transcriptional termination region were removed from the pART7 vector as a *Not*I fragment and introduced directly to the pART7 vector. The plasmid was transformed into *A. tumefaciens*. Plant of *Arabidopsis thaliana* were transformed with *A. tumefaciens* GV3101 harboring either of the plasmids



PEWART27-14 and PEWART27-17. Entire plant (inflorescence and rosette) were submerged for 20-30 second in the infiltration media consisting of 5% sucrose and 0.02% Silwet L-77 with resuspended transformed A. tumefaciens cells. Plant were then transferred to a growth chamber with a photoperiod of 16 hour of light at 21 degreesC and 8 hour of dark at 18degreesC (70% humidity). The seed oil content of T2 plants of the Arabidopsis transformants was analyzed by the use of conventional gas-liquid chromatography (GLC). As controls, seeds from wild type plants were used. The level of expression of the YJR098c gene in the seeds was determined by Northern blot analysis. The result of the measurement for the lines comprising the YJR098c construct showed a significantly higher total oil content in transgenic lines compared to the measurement of wild type plants.(46 pages)

ACCESSION NUMBER: 2004-07840 BIOTECHDS  
 TITLE: Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content; involving transgenic plant construction and tissue culture propagation  
 AUTHOR: GIPMANS M; DAHLQVIST A; BANAS A; STAEHL U; WIBERG E; LENMAN M; RONNE H; STYMNE S  
 PATENT ASSIGNEE: BASF PLANT SCI GMBH  
 PATENT INFO: WO 2004007727 22 Jan 2004  
 APPLICATION INFO: WO 2003-EP7084 3 Jul 2003  
 PRIORITY INFO: EP 2002-15344 10 Jul 2002; EP 2002-15344 10 Jul 2002  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 OTHER SOURCE: WPI: 2004-122957 [12]

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In a multifile environment, a format can only be used if it is valid
in at least one of the files. Refer to file specific help messages
or the STNGUIDE file for information on formats available in
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'D' IS NOT A VALID FORMAT
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FILE 'MEDLINE, BIOSIS, WPIDS, USPATFULL, DGENE, EMBASE, BIOTECHDS'  
 ENTERED AT 00:40:04 ON 12 MAY 2008

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L1      31 S SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)
L2      29 S L1 AND (FATTY ACIDS)
L3      16 S L2 AND (NUCLEIC ACID)
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E2      1      SAHLQVIST PHIL/AU
E3      0 --> SAHLQVIST, A/AU
E4      20     SAHLROOT J T/AU
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E6          2      SAHLROOT JON TODD/AU
E7          3      SAHLROOT TODD/AU
E8          1      SAHLSTEDT/AU
E9          1      SAHLSTEDT A V/AU
E10         91     SAHLSTEDT B/AU
E11         11     SAHLSTEDT BO/AU
E12         1      SAHLSTEDT H/AU

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(FILE 'HOME' ENTERED AT 00:39:23 ON 12 MAY 2008)

FILE 'MEDLINE, BIOSIS, WPIDS, USPATFULL, DGENE, EMBASE, BIOTECHDS'  
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L1          31 S  SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)
L2          29 S  L1 AND (FATTY ACIDS)
L3          16 S  L2 AND (NUCLEIC ACID)
              E SAHLQVIST, A/AU

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=> e dahlqvist, a/au

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E8          1      DAHLRUP H/AU
E9          1      DAHLS S/AU
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E11         6      DAHLSEID J N/AU
E12         12     DAHLSEID JEFFREY N/AU

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FILE 'MEDLINE, BIOSIS, WPIDS, USPATFULL, DGENE, EMBASE, BIOTECHDS'  
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L1          31 S  SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)
L2          29 S  L1 AND (FATTY ACIDS)
L3          16 S  L2 AND (NUCLEIC ACID)
              E SAHLQVIST, A/AU
              E DAHLQVIST, A/AU

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=> e banas, a/au

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E11         1      BANASCFAEWSKI T DR/AU
E12         1      BANASCH B/AU

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(FILE 'HOME' ENTERED AT 00:39:23 ON 12 MAY 2008)

FILE 'MEDLINE, BIOSIS, WPIDS, USPATFULL, DGENE, EMBASE, BIOTECHDS'  
ENTERED AT 00:40:04 ON 12 MAY 2008

L1 31 S SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)  
L2 29 S L1 AND (FATTY ACIDS)  
L3 16 S L2 AND (NUCLEIC ACID)  
E SAHLQVIST, A/AU  
E DAHLQVIST, A/AU  
E BANAS, A/AU

=> d l1 ti tot

L1 ANSWER 1 OF 31 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN  
TI CONDITIONS FOR FAT PRODUCTION BY A RECOMBINANT STRAIN OF YEAST.

L1 ANSWER 2 OF 31 WPIDS COPYRIGHT 2008 THOMSON REUTERS on STN  
TI Increasing total oil content in plant or its propagation material, by  
transgenically expressing a triacylglycerol-synthesis enhancing protein  
from yeast in plant, and selecting plants having increased total oil  
content

L1 ANSWER 3 OF 31 WPIDS COPYRIGHT 2008 THOMSON REUTERS on STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic  
pathway for triacylglycerol production and DNAs encoding them, useful for  
producing triacylglycerol, or for transforming any cell or organism to  
increase oil content

L1 ANSWER 4 OF 31 USPATFULL on STN  
TI Process for the production of fine chemicals

L1 ANSWER 5 OF 31 USPATFULL on STN  
TI Diacylglycerol acyltransferase genes, proteins, and uses thereof

L1 ANSWER 6 OF 31 USPATFULL on STN  
TI Trans-2-enoyl-coa reductase gene of euglena gracilis

L1 ANSWER 7 OF 31 USPATFULL on STN  
TI Use of genes for increasing the oil content in plants

L1 ANSWER 8 OF 31 USPATFULL on STN  
TI Use of a gene for increasing the oil content in plants

L1 ANSWER 9 OF 31 USPATFULL on STN  
TI Diacylglycerol acyltransferase genes, proteins, and uses thereof

L1 ANSWER 10 OF 31 USPATFULL on STN  
TI Use of class enzymes and their encoding genes to increase the oil  
content in transgenic organisms

L1 ANSWER 11 OF 31 USPATFULL on STN  
TI Use of a class of enzymes and their encoding genes to increase the oil  
content in transgenic organisms

L1 ANSWER 12 OF 31 USPATFULL on STN  
TI Diacylglycerol acyltransferase nucleic acid sequences and associated  
products

L1 ANSWER 13 OF 31 USPATFULL on STN  
TI Diacylglycerol acyl transferase proteins

L1 ANSWER 14 OF 31 USPATFULL on STN  
 TI Diacylglycerol acyl transferase proteins

L1 ANSWER 15 OF 31 USPATFULL on STN  
 TI Roselipin Derivative

L1 ANSWER 16 OF 31 USPATFULL on STN  
 TI Plant phosphatidic acid phosphatases

L1 ANSWER 17 OF 31 USPATFULL on STN  
 TI Plant phosphatidic acid phosphatases

L1 ANSWER 18 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 19 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 20 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 21 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 22 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 23 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 24 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 25 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 26 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 27 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 28 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 29 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 30 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 31 OF 31 BIOTECHDS COPYRIGHT 2008 THOMSON REUTERS on STN  
 TI Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content;  
     involving transgenic plant construction and tissue culture propagation

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FILE 'MEDLINE, BIOSIS, WPIDS, USPATFULL, DGENE, EMBASE, BIOTECHDS'  
 ENTERED AT 00:40:04 ON 12 MAY 2008

L1 31 S SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)  
 L2 29 S L1 AND (FATTY ACIDS)  
 L3 16 S L2 AND (NUCLEIC ACID)  
     E SAHLQVIST, A/AU  
     E DAHLQVIST, A/AU  
     E BANAS, A/AU

=> d l1 ti abs ibib 20-31

L1 ANSWER 20 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

AN AAB24265 Protein DGENE  
 AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from

phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (*Saccharomyces cerevisiae*) PDAT ORF (open reading frame) amino acid sequence.

ACCESSION NUMBER: AAB24265 Protein DGENE  
 TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content - Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S  
 INVENTOR:  
 PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.  
 PATENT INFO: WO 2000060095 A2 20001012 97  
 APPLICATION INFO: WO 2000-EP2701 20000328  
 PRIORITY INFO: EP 1999-106656 19990401  
 EP 1999-111321 19990610  
 US 2000-180687 20000207  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 OTHER SOURCE: 2000-665012 [64]  
 CROSS REFERENCES: N-PSDB: AAC64440  
 DESCRIPTION: *Saccharomyces cerevisiae* PDAT ORF amino acid sequence SEQ ID NO:5a.

L1 ANSWER 21 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
 TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -  
 AN AAB24262 Protein DGENE  
 AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (*Saccharomyces cerevisiae*) PDAT ORF (open reading frame) amino acid sequence.

ACCESSION NUMBER: AAB24262 Protein DGENE  
 TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content - Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S  
 INVENTOR:  
 PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.  
 PATENT INFO: WO 2000060095 A2 20001012 97  
 APPLICATION INFO: WO 2000-EP2701 20000328  
 PRIORITY INFO: EP 1999-106656 19990401  
 EP 1999-111321 19990610  
 US 2000-180687 20000207  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English

OTHER SOURCE: 2000-665012 [64]  
DESCRIPTION: Saccharomyces cerevisiae PDAT ORF amino acid  
sequence SEQ ID NO:1a.

L1 ANSWER 22 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic  
pathway for triacylglycerol production and DNAs encoding them, useful for  
producing triacylglycerol, or for transforming any cell or organism to  
increase oil content -  
AN AAB24256 Protein DGENE  
AB The present invention describes an enzyme for catalysing (in an  
acyl-CoA-independent reaction) the transfer of fatty acids from  
phospholipids to diacylglycerol in the biosynthetic pathway for the  
production of triacylglycerol (TAG). The enzyme is  
designated as phospholipid:diacylglycerol acyltransferase (PDAT). The  
enzyme and the nucleotides encoding them are useful for producing TAG  
and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are  
also useful for transforming any cell or organism in order to be  
expressed in this cell or organism and result in an altered, preferably  
increased oil content of this cell or organism. The present sequence  
represents the yeast (Saccharomyces cerevisiae) PDAT protein.

ACCESSION NUMBER: AAB24256 Protein DGENE  
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the  
biosynthetic pathway for triacylglycerol production and DNAs  
encoding them, useful for producing triacylglycerol, or for  
transforming any cell or organism to increase oil content -  
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S  
PATENT ASSIGNEE: (BADI) BASF PLANT SCI GMBH.  
PATENT INFO: WO 2000060095 A2 20001012 97  
APPLICATION INFO: WO 2000-EP2701 20000328  
PRIORITY INFO: EP 1999-106656 19990401  
EP 1999-111321 19990610  
US 2000-180687 20000207  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2000-665012 [64]  
CROSS REFERENCES: N-PSDB: AAC64431  
DESCRIPTION: Saccharomyces cerevisiae PDAT protein sequence SEQ  
ID NO:2.

L1 ANSWER 23 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
TI Increasing the total oil content in a plant organism, its tissue, organ,  
part, cell or propagation material comprises expressing a polypeptide,  
Ypr140w, in the plant organism, its tissue, organ, part, cell or  
propagation material.  
AN ADU00561 DNA DGENE  
AB The specification describes a method for increasing the total oil content  
in a plant organism, its tissue, organ, part, cell or propagation  
material. The method comprises expressing an oil enhancing protein (OEP)  
in the plant organism, its tissue, organ, part, cell or propagation  
material, and selecting plant organisms having increased total oil  
content in contrast to or in comparison with the starting organism. The  
method and genetically modified plants are useful for producing oils,  
fats, free fatty acids, or their derivatives. PCR primers ADU00560-  
ADU00561 were used to amplify the coding region encoding OEP designated  
YPR140w, which enhances production of triacylglycerol  
. YPR140w can be used in the method of the invention to produce  
transgenic plants.  
ACCESSION NUMBER: ADU00561 DNA DGENE  
TITLE: Increasing the total oil content in a plant organism, its  
tissue, organ, part, cell or propagation material comprises

expressing a polypeptide, Yprl40w, in the plant organism, its tissue, organ, part, cell or propagation material.

INVENTOR: Cirpus P; Oswald O; Ronne H; Dahlqvist A; Lenman M; Neal A; Stahl U; Liu T; Banas A; Wiberg E

PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.

PATENT INFO: WO 2004092367 A1 20041028 76

APPLICATION INFO: WO 2004-EP3845 20040413

PRIORITY INFO: EP 2003-8909 20030416

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2004-766868 [75]

DESCRIPTION: PCR primer used to amplify OEP YPR140w coding region.

L1 ANSWER 24 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN

TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Yprl40w, in the plant organism, its tissue, organ, part, cell or propagation material.

AN ADU00525 DNA DGENE

AB The specification describes a method for increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material. The method comprises expressing an oil enhancing protein (OEP) in the plant organism, its tissue, organ, part, cell or propagation material, and selecting plant organisms having increased total oil content in contrast to or in comparison with the starting organism. The method and genetically modified plants are useful for producing oils, fats, free fatty acids, or their derivatives. The present sequence encodes an OEP designated YPR140w, which enhances production of triacylglycerol. YPR140w can be used in the method of the invention to produce transgenic plants.

ACCESSION NUMBER: ADU00525 DNA DGENE

TITLE: Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Yprl40w, in the plant organism, its tissue, organ, part, cell or propagation material.

INVENTOR: Cirpus P; Oswald O; Ronne H; Dahlqvist A; Lenman M; Neal A; Stahl U; Liu T; Banas A; Wiberg E

PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.

PATENT INFO: WO 2004092367 A1 20041028 76

APPLICATION INFO: WO 2004-EP3845 20040413

PRIORITY INFO: EP 2003-8909 20030416

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2004-766868 [75]

CROSS REFERENCES: P-PSDB: ADU00526

DESCRIPTION: Nucleotide sequence of oil enhancing protein (OEP) YPR140w.

L1 ANSWER 25 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN

TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Yprl40w, in the plant organism, its tissue, organ, part, cell or propagation material.

AN ADU00560 DNA DGENE

AB The specification describes a method for increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material. The method comprises expressing an oil enhancing protein (OEP) in the plant organism, its tissue, organ, part, cell or propagation material, and selecting plant organisms having increased total oil content in contrast to or in comparison with the starting organism. The method and genetically modified plants are useful for producing oils, fats, free fatty acids, or their derivatives. PCR primers ADU00560-



ADU00561 were used to amplify the coding region encoding OEP designated YPR140w, which enhances production of triacylglycerol . YPR140w can be used in the method of the invention to produce transgenic plants.

ACCESSION NUMBER: ADU00560 DNA DGENE  
TITLE: Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.  
INVENTOR: Cirpus P; Oswald O; Ronne H; Dahlgvist A; Lenman M; Neal A; Stahl U; Liu T; Banas A; Wiberg E  
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.  
PATENT INFO: WO 2004092367 A1 20041028 76  
APPLICATION INFO: WO 2004-EP3845 20040413  
PRIORITY INFO: EP 2003-8909 20030416  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2004-766868 [75]  
DESCRIPTION: PCR primer used to amplify OEP YPR140w coding region.

L1 ANSWER 26 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

AN AAC64451 DNA DGENE  
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents a PCR primer for yeast (*Saccharomyces cerevisiae*) PDAT.

ACCESSION NUMBER: AAC64451 DNA DGENE  
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -  
INVENTOR: Dahlgvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S  
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.  
PATENT INFO: WO 2000060095 A2 20001012 97  
APPLICATION INFO: WO 2000-EP2701 20000328  
PRIORITY INFO: EP 1999-106656 19990401  
EP 1999-111321 19990610  
US 2000-180687 20000207  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2000-665012 [64]  
DESCRIPTION: *Saccharomyces cerevisiae* PDAT PCR primer #2.

L1 ANSWER 27 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -  
AN AAC64450 DNA DGENE

AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents a PCR primer for yeast (*Saccharomyces cerevisiae*) PDAT.

ACCESSION NUMBER: AAC64450 DNA DGENE  
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content - Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S (BADI)BASF PLANT SCI GMBH.  
INVENTOR:  
PATENT ASSIGNEE:  
PATENT INFO: WO 2000060095 A2 20001012 97  
APPLICATION INFO: WO 2000-EP2701 20000328  
PRIORITY INFO: EP 1999-106656 19990401  
EP 1999-111321 19990610  
US 2000-180687 20000207  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2000-665012 [64]  
DESCRIPTION: *Saccharomyces cerevisiae* PDAT PCR primer #1.

L1 ANSWER 28 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

AN AAC64441 DNA DGENE  
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (*Saccharomyces cerevisiae*) PDAT gene.

ACCESSION NUMBER: AAC64441 DNA DGENE  
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content - Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S (BADI)BASF PLANT SCI GMBH.  
INVENTOR:  
PATENT ASSIGNEE:  
PATENT INFO: WO 2000060095 A2 20001012 97  
APPLICATION INFO: WO 2000-EP2701 20000328  
PRIORITY INFO: EP 1999-106656 19990401  
EP 1999-111321 19990610  
US 2000-180687 20000207  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: 2000-665012 [64]

CROSS REFERENCES: P-PSDB: AAB24266

DESCRIPTION: Saccharomyces cerevisiae PDAT gene SEQ ID NO:1b.

L1 ANSWER 29 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -  
AN AAC64440 DNA DGENE  
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (*Saccharomyces cerevisiae*) PDAT ORF (open reading frame) nucleotide sequence.

ACCESSION NUMBER: AAC64440 DNA DGENE

TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S

PATENT ASSIGNEE: (BADI) BASF PLANT SCI GMBH.

PATENT INFO: WO 2000060095 A2 20001012

97

APPLICATION INFO: WO 2000-EP2701 20000328

PRIORITY INFO: EP 1999-106656 19990401

EP 1999-111321 19990610

US 2000-180687 20000207

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2000-665012 [64]

CROSS REFERENCES: P-PSDB: AAB24265

DESCRIPTION: Saccharomyces cerevisiae PDAT ORF nucleotide sequence SEQ ID NO:4a.

L1 ANSWER 30 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN  
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

AN AAC64431 DNA DGENE

AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence encodes yeast (*Saccharomyces cerevisiae*) PDAT.

ACCESSION NUMBER: AAC64431 DNA DGENE

TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for

transforming any cell or organism to increase oil content -  
 INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S  
 PATENT ASSIGNEE: (BADI) BASF PLANT SCI GMBH.  
 PATENT INFO: WO 2000060095 A2 20001012 97  
 APPLICATION INFO: WO 2000-EP2701 20000328  
 PRIORITY INFO: EP 1999-106656 19990401  
 EP 1999-111321 19990610  
 US 2000-180687 20000207  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 OTHER SOURCE: 2000-665012 [64]  
 CROSS REFERENCES: P-PSDB: AAB24256  
 DESCRIPTION: Saccharomyces cerevisiae PDAT gene SEQ ID NO:1.

L1 ANSWER 31 OF 31 BIOTECHDS COPYRIGHT 2008 THOMSON REUTERS ON STN  
 TI Increasing total oil content in plant or its propagation material, by  
 transgenically expressing a triacylglycerol-synthesis enhancing protein  
 from yeast in plant, and selecting plants having increased total oil  
 content;  
 involving transgenic plant construction and tissue culture propagation  
 AN 2004-07840 BIOTECHDS  
 AB DERWENT ABSTRACT:  
 NOVELTY - Increasing total oil content in plant organism or tissue,  
 organ, part, cell or its propagation material, by transgenic expressing  
 triacylglycerols (TAG) synthesis enhancing protein (TEP) having fully  
 defined sequence (S1) of 655 amino acids as given in specification from  
 yeast in plant or in tissue, organ, part, cell or its propagation  
 material, selecting plant having increased total oil content in  
 comparison with control.

DETAILED DESCRIPTION - Increasing (M1) total oil content in plant  
 organism or tissue, organ, part, cell or its propagation material, by  
 transgenic expressing triacylglycerols (TAG) synthesis enhancing protein  
 (TEP) (I) having a fully defined sequence (S1) of 655 amino acids as  
 given in the specification from yeast in plant organism or in tissue,  
 organ, part, cell or its propagation material, selecting plant organisms  
 in which total oil content in plant organism or in tissue, organ, part,  
 cell or its propagation material is increased in contrast to or  
 comparison with starting organism. INDEPENDENT CLAIMS are also included  
 for: (1) a transgenic expression cassette (II) comprising a nucleic acid  
 sequence (S2) of YJR098c gene having fully defined sequence of 2439  
 nucleotides as given in the specification operable linked to a promoter,  
 which is functional in a plant organism or a tissue, organ, part or its  
 cell; (2) a transgenic vector (III) comprising (II) an expression an  
 expression cassette; and (3) a transgenic plant organism or tissue,  
 organ, part, cell or its propagation material comprising (I) or (II) or  
 (III).

WIDER DISCLOSURE - (1) reducing TEP in a host cell or its progeny  
 including genetically engineered oil seeds, yeast and moulds or any other  
 oil-accumulating organism; and (2) elevating the production of  
 triacylglycerol.

BIOTECHNOLOGY - Preferred Method: In (M1), the polypeptide from  
 yeast has sequence (S1) or has functional equivalent amino acid sequence  
 with at least 60% homology of (S1). The plant is an oil crop and the  
 total oil content in the seed of a plant is increased. Preferred  
 Expression Cassette: In (II), the nucleic acid sequence has sequence (S2)  
 or sequence derived from (S2) in accordance with the degeneracy of the  
 genetic code or sequence which has at least 60% identity with (S2). The  
 promoter is a seed-specific promoter.

USE - (M1) is useful for increasing total oil content in plant  
 organism or tissue, organ, part, cell or its propagation material. A  
 transgenic plant organism chosen from oil crops consisting of Borvago

officinalis, Brassica campestris, B. napus, B. rapa, Cannabis sativa, Carthamus tinctorius, Cocos nucifera, Crambe abyssinica, Cuphea sp., Elaeis guineensis, E. oleifera, Glycine max, Gossypium hirsutum, G. barbadense, G. herbaceum, Helianthus annuus, Linum usitatissimum, Oenothera biennis, Olea europaea, Oryza sativa, Ricinus communis, Sesamum indicum, Triticum sp., Zea mays, walnut and almond or tissue, organ, part, cell or its propagation material is useful in the production of oils, fats, free fatty acids or its derivatives (all claimed). The transgenic plant is also useful for the production of food, feeds, seeds, pharmaceuticals, or fine chemicals, in particular for the production of oils.

ADVANTAGE - (M1) is efficient in increasing total oil content in organism or tissue, organ, plant, cell, or its propagation material.

EXAMPLE - Transgenic plants expressing YJR098c gene of triacylglycerols (TAG) synthesis enhancing protein (TEP) derived from Saccharomyces cerevisiae was generated as follows for induced high level expression of the YJR098c gene in plants, a PCR fragment (2409 base pair (bp)) was generated by the 5' primer (ctgttagaggtttgggga) and the 3' primer (tgaattgtcctcgctgtcaa) adding 29 bases upstream of the gene and 442 bases downstream of the gene. The gene was cloned into the SmaI site of the vapor pUC119 thus generating pUS 29. For Agrobacterium mediated plant transformation a binary vector system including the primary cloning vector pART7 with a CaMV35S promoter and a pART27 vector were used. The YJR098c fragment were excised from pUS 29 at the XbaI and SacI site and then blunted into the pART7 vector with either the CaMV35S promoter, generating pEW 17 or with the napin promoter, generating pEW 14. The entire cartridge including the promoter, the YJR098c gene and a transcriptional termination region were removed from the pART7 vector as a NotI fragment and introduced directly to the pART7 vector. The plasmid was transformed into A. tumefaciens. Plant of Arabidopsis thaliana were transformed with A. tumefaciens GV3101 harboring either of the plasmids pEWART27-14 and pEWART27-17. Entire plant (inflorescence and rosette) were submerged for 20-30 second in the infiltration media consisting of 5% sucrose and 0.02% Silwet L-77 with resuspended transformed A. tumefaciens cells. Plant were then transferred to a growth chamber with a photoperiod of 16 hour of light at 21 degreesC and 8 hour of dark at 18degreesC (70% humidity). The seed oil content of T2 plants of the Arabidopsis transformants was analyzed by the use of conventional gas-liquid chromatography (GLC). As controls, seeds from wild type plants were used. The level of expression of the YJR098c gene in the seeds was determined by Northern blot analysis. The result of the measurement for the lines comprising the YJR098c construct showed a significantly higher total oil content in transgenic lines compared to the measurement of wild type plants. (46 pages)

ACCESSION NUMBER: 2004-07840 BIOTECHDS

TITLE: Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content; involving transgenic plant construction and tissue culture propagation

AUTHOR: GIPMANS M; DAHLQVIST A; BANAS A; STAEHL U; WIBERG E; LENMAN M; RONNE H; STYMNE S

PATENT ASSIGNEE: BASF PLANT SCI GMBH

PATENT INFO: WO 2004007727 22 Jan 2004

APPLICATION INFO: WO 2003-EP7084 3 Jul 2003

PRIORITY INFO: EP 2002-15344 10 Jul 2002; EP 2002-15344 10 Jul 2002

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2004-122957 [12]

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